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The ferns and flowering plants of Nantucket—V

EUGENE P. BICKNELL

POLYGONACEAE

RUMEX BRITANNICA L.

Common in wet swamps. In flower and fruit August and September.

RUMEX CRISPUS L.

A common weed; in flower and fruit through summer and autumn.

RUMEX OBTUSIFOLIUS L.

Less common than the preceding, flowering and fruiting at the same seasons.

RUMEX CRISPUS × OBTUSIFOLIUS.

This hybrid is reported in Mrs. Owen's catalogue, on the authority of Mr. Dame, as being quite common at Siasconset. I observed it at a number of places in low-lying grassy fields and lots in and near the town, where it is certainly frequent, if not common. It appears to be quite intermediate in its characters between the two parent species, but is sometimes, at least, sterile or nearly so, although flowering abundantly. Specimens collected agree closely with an example in herb. N. Y. Botanical Garden ex herb. Torrey, labeled as a hybrid by Doctor Engelmann and collected by him at St. Louis, Mo., Aug., 1842.

RUMEX PERSICARIOIDES L.

Occurs sparingly on the shores of Sachacha Pond and more commonly about brackish ponds along the south side of the island; Madequecham, Nobadeer, Miacomet, and Hummock Ponds; Long Pond (*M. L. O.*). In full flower August and September.

RUMEX ACETOSELLA L.

Abundant all over the island, often growing in pure dry sand. In early June, when in full flower, it is one of the conspicuous plants of the season, reddening the fields and plains and damp sandy levels along the shores.

Note. — Mrs. Owen's catalogue includes *Rumex salicifolius* Weinm. and *Rumex verticillatus* L. It has been recently shown by Professor Fernald (Rhodora **10**: 17–20. 1908) that our coastwise dock formerly referred to *R. salicifolius* should properly bear the name *R. pallidus* Bigel. This plant may well occur on Nantucket, although I saw nothing of it. Neither was *R. verticillatus* met with.

POLYGONUM MARITIMUM L.

Somewhat locally common on the coast sands, flowering through August and September.

In damp sand it sometimes flowers abundantly when erect and less than 10 cm. high; vigorous plants on dry white sand spread widely from a deep woody root, the prostrate branches becoming 6 dm. in length.

POLYGONUM AVICULARE L.

Under this name alone it is not possible to report the status of *Polygonum aviculare* on Nantucket with the definiteness proper to a local flora. The name has long been so loosely construed that it fails to convey an unmistakable meaning, nor can it be understood from its use what particular plant of a considerable group is sought to be referred to. Some form of definition is necessary in order to give definite expression to the name. The binomial has here succumbed to the polynomial and we have one of those cases where so-called breadth of treatment in the interpretation of species has served to obscure the facts of nature rather than to make them clear.

The botanical history of the plant furnishes also an excellent example of the futility of multiplying varietal names. Many varietal subdivisions have been proposed under the species, yet, notwithstanding the authentic bases of a number of them, few or none remain in current use.

As I apprehend the problem, the species *Polygonum aviculare*, as commonly accepted, embraces a group of organic units more or less clearly outlined which it is very expedient that we should be able to deal with under distinctive names. An understanding of the geographical, ecological, and organic relations of these units depends in a measure on this matter of names and will scarcely be assisted by that timorous method in taxonomy which abandons its species at the least evidence of intergradation, however obscure or exceptional the case may be.

In our present imperfect knowledge of this group I have refrained from treating as a species any of its members for which a published specific name was not found to be available.

As *Polygonum aviculare* L. occurs on Nantucket in grassy places along the streets and here and there at outlying points, it is a dull bluish-green plant, ascending or erect, slenderly branched from the base, the leaves neither crowded nor greatly reduced in size on the ultimate branches, rather thin, often only obscurely veined, oblong-lanceolate, acute or obtusely pointed, distinctly petioled; ochreae thin-membranous, at first silvery white and acute, becoming pale brown and more or less shriveled-lacerate; flowers distinctly pedicelled; mature flowering calyx 2–2.5 mm. long, margined with white or purplish; achene 2–2.5 mm. long, 1.5 mm. thick, unevenly trigonous, the broader faces ovate, nearly plane, dark, dull, rugulose-striate.

A slender often erect form, found in grassy plots on shady streets, seems to answer the description of var. *agrarium* Koch.

There is a form of this plant that appears to be well entitled to recognition which was not found on Nantucket, being apparently more common northward or at higher elevations. It is characterized by slender elongated branches, straggling or prostrate habit, and very pale color; the leaves, which are sometimes almost whitened beneath, are rather small, well separated, oblong or somewhat spatulate, mostly rounded or obtuse at the apex, and, except the midvein, nerveless or nearly so; stems usually floriferous in all the axils; calyx margined with white or clear pink. It is perhaps the *Polygonum aviculare* var. *diffusum* of Meisner.

* POLYGONUM MONSPELIENSE Thieb. in Pers. Syn. **1**: 439. 1805.
?*P. aviculare* var. *vegetum* Ledeb. Fl. Ross. **3**: 532. 1849.

Found only in the neighborhood of the town, occurring in sandy places, or in pure sand, near the shore. This was the only *Polygonum* found in flower in June, being in full bloom and with mature fruit as early as June 20.

This plant seems to have been little recognized in our flora and very imperfectly understood. A detailed description may therefore be of service:

Pale glaucescent green, relatively stout, usually rather low, erect or ascending with mostly short branches, the main internodes often 2–5 cm. long, conspicuously striate, usually hollow with firm often thin walls; leaves commonly rather thin, relatively broad, elliptic to obovate-oblong, sometimes narrower, the main stem-leaves narrowed to distinct, even slender, petioles, rather abruptly acute or acutish or the upper ones obtuse, 2–6 cm. long, 0.5–2 cm. wide, smaller, narrower, and crowded towards the ends of the branches, prominently veined beneath, the margins distinctly crisped; ochreae conspicuous, silvery white, often purplish at base, becoming pale brown, narrowly acute, finally lacerate into weak divisions; flowers clustered in the axils, often distinctly pedicelled, rather large, at maturity mostly 3–3.5 mm. long, green with strongly contrasting white margins, rarely slightly purplish-tinged; achene broadly trigonous-ovoid with concave faces, commonly 3 mm. long by 2 mm. thick, rather acute, dark, dull, finely rugulose-striate.

A shorter, stiffer, and usually stouter, plant than *Polygonum aviculare*, paler green, with broader, more venose and crisped leaves, usually more crowded on the fewer and shorter branches, larger and more conspicuous ochreae, larger flowers, commonly with little or no purplish tinge and larger, broader, more sharply trigonous achenes with the faces more concave.

Large forms are sometimes mistaken for *Polygonum erectum* L., which differs materially in its distinctive yellowish green color, solid woody stem of shorter internodes, less whitened ochreae, more dilated and often somewhat crested angles of the mature calyx and broader, less dark-colored achene; it is also later-flowering, often by several weeks.

Note. — *Polygonum erectum* L. is said in Mrs. Owen's catalogue to be found occasionally on the wharves. It may well have occurred, but I could find nothing of it, and the species was formerly so poorly understood that *Polygonum monspeliense* might easily have been mistaken for it.

* POLYGONUM BUXIFORME Small, Bull. Torrey Club **33**: 56. 1906.

P. littorale Small, in part. Mem. Dept. Bot. Columbia Coll. **1**: 102. 1895. Not *P. littorale* Link.

P. aviculare var. *depressum* Meisner in DC. Prod. **14**: 98. 1856.

P. aviculare var. *procumbens* Torrey. Probably not Meisner.

Frequent along roads and pathways.

Pale glaucescent green, prostrate ; stems stiff, becoming somewhat lignescent, often of nearly uniform thickness throughout, bearing short, divergent branches nearly to the tip, or sometimes with elongated branches with short and stiff ultimate divisions ; internodes very short, sharply angled ; ochreae very short, brownish-tinged, becoming bright light-brown, finally cleft into rather broad, weakly acuminate divisions ; leaves small, numerous, crowded, mostly 0.5–1 cm. long, 2–3 mm. wide, oval, elliptic, or short-oblong, obtuse or rounded at the apex, contracted or narrowed to a very short rather broad petiole, thickish, strongly venose beneath, scarcely revolute, mostly with involute tendency, often minutely crisped ; flowers small, crowded, appearing subsessile, 2–2.5 mm. long, at maturity sometimes as broad as long, green, the divisions narrowly white-margined or tinged with reddish-purple ; achene included, mostly broadly ovoid, usually abruptly contracted above, obtusely pointed, unevenly trigonous or sublenticular, 2–2.5 mm. long, 1.25–1.75 mm. wide, dark brown, finely rugulose-striate, dull or sometimes obscurely rugulose and somewhat shining.

A smaller plant than *Polygonum aviculare*, commonly stiffly prostrate, with relatively thicker, more woody stems of shorter, more angled internodes, much smaller, thicker, more venose leaves, mostly oval or short-oblong and obtuse, smaller, more crowded flowers on shorter pedicels, smaller and somewhat different achenes.

The *Polygonum littorale* Link, of Europe, to which this plant has been referred, appears to be quite distinct. Specimens labeled by Meisner in the herbarium of the New York Botanical Garden differ obviously, among other characters, in the smaller, brighter reddish-brown achene, which is narrower, more gradually pointed, smooth, or nearly so, more or less shining, and distinctly exposed at the tip when fully mature. That *Polygonum littorale* also occurs in this country seems to be attested by specimens from Mt. Desert, Maine, which I have been unable to refer to any other species.

* POLYGONUM PROVINCIALE C. Koch. Linnaea **22** : 204. 1849.

Similar to *Polygonum buxiforme* Small, but more slender and and often longer-branched, the internodes usually rather longer and less prominently striate and angled; leaves small, 0.5–15 mm. long, 1–3 mm. wide, numerous, often crowded, thickish, linear to linear-oblong or lanceolate-linear, narrowed to base and apex, very short-petioled or subsessile, mostly acute, distinctly veined on the lower surface, the margins more or less revolute; ochreae mostly acute, longer, closer, and more firmly lacerate than in *P. buxiforme*, becoming darker and more purplish-brown; flowers rather smaller and narrower than in *P. buxiforme* and less closely clustered, mostly 1.5–2 mm. long, greenish and white or slightly purplish-tinged; achene included, commonly rather smaller and narrower than in *P. buxiforme* and lighter brown, unevenly trigonous or sublenticular, somewhat contracted towards the top, rugulose-striate.

Nearly related to *P. buxiforme*, differing in more slender, less sharply angled stems, narrower, more acute revolute leaves, somewhat longer ochreae with narrower more attenuate final divisions, often smaller flowers and mostly narrower paler brown achenes. It is frequent on Nantucket in the same situations as *P. buxiforme*. It is also common on Long Island.

The original description of *P. provinciale* appears to justify the adoption of the name for the plant here discussed.

* POLYGONUM NEGLECTUM Besser, Enum. Pl. Vol. 45. 1822.

P. aviculare var. *laxum* Ledeb. Fl. Ross. **3**: 532. 1849.

P. aviculare var. *latifolium* C. Koch, Linnaea **22**: 204. 1849. (Probably, — not *P. aviculare* var. *latifolium* Michx.)

P. aviculare var. *angustifolium* C. Koch, *loc. cit.* (Probably.)

P. aviculare var. *tenuissimum* C. Koch, *loc. cit.*

P. aviculare var. *angustissimum* Meisner in DC. Prod. **14**: 98. 1856.

P. aviculare var. *neglectum* Aschers. Fl. Brandenb. 51. 1864.

A characteristic knotweed of Nantucket, growing in sand or sandy soil especially about some of the south shore ponds and along the borders of salt marshes.

The name *Polygonum neglectum* Besser is adopted for this knotweed by authority of the exact fitness of the original description of the species to the prevailing form of the Nantucket plant. While therefore it can scarcely be doubted that the name is correctly taken up, so widely divergent are extreme forms of the plant that only the broadest application of the name will embrace the species as a whole. It is quite possible, however, that certain of these forms, for the present so treated, will be found to be essentially distinct plants.

The species itself has been so obscurely known and little recognized that detailed descriptions may be useful:

What may be understood as being the typical plant is dull light-green in color, erect, ascending, or prostrate, rather stiff, widely slender-branched from the base; internodes rather short, often zigzag, striate, usually minutely roughened; leaves firm, elliptic to narrowly elliptic-lanceolate, acute, narrowed to the base, sessile or very short-petioled, prominently veined on the lower surface and somewhat scurfy-punctate, the margins often distinctly crisped or cartilaginous-roughened, and revolute when dry; leaves of the branchlets gradually reduced upwards and becoming very small, linear-lanceolate and acute to linear and obtuse; ochreae silvery brown when young and narrowly lanceolate-attenuate, finally lacerate into narrow stiffly ascending bristleform divisions, or sometimes weak and flexuous, the base mostly funnelform, becoming blackish; terminal inflorescence appearing more or less subspicate, the flowers with very short pedicels, mostly sessile or two together; mature flowering calyx 2–3 mm. long, often strongly venose, the margins commonly purplish red; achene mostly exserted at tip, usually somewhat unevenly trigonous with the faces nearly plane, commonly rather smaller than in *P. aviculare*, less strongly rugulose and lighter and more reddish brown in color, often more abrupt at base and apiculate.

A broader-leaved, often larger form bears diffuse, decompound, widely ascending branches, sometimes 7.5 dm. in length, the ultimate branches slender and flexuous; longer internodes 5 cm. long, the uppermost very short; larger leaves sometimes obovoid-oblong, becoming 3.5 cm. long and 1.2 cm. wide, the margins firmly crenulate; ochreae relatively short and not usually stiffly bristly-lacerate; flowers distinctly pedicelled, large, becoming 3–3.5 mm. long, the bright carmine, somewhat petaliferous segments concealing the tip of the achene; achene large, 2.5–3 mm. long, 1.5–2 mm. wide, evenly trigonous with deeply concave faces, red-brown, dull but shining on the angles, strongly rugulose and apiculate.

The examples here described were collected at York Harbor, Maine, on August 15, 1893, and August 19, 1894, and grew in stony places back of the beaches. The same plant although less strongly developed is common on Mt. Desert, Maine, where I collected it in 1895, growing in the same situations as at York Harbor. That it occurs as far east as Newfoundland is attested by reduced examples from Torbay (*C. D. Howe & W. F. Lang, 1367*, August 21–26, 1901, ledges of damp sea-cliffs).

In the herbarium of the New York Botanical Garden are specimens closely similar to the Maine plant collected by Professor B. Jönsson in Scandinavia and labeled *P. aviculare* var. *maximum* and from Geneva, ex herb. Meisner, labeled *P. aviculare* var. *vegetum* Ledeb. This latter determination may be correct, but var. *vegetum*, as it has been interpreted, is a very different plant, the *P. monspeliense* Thieb. of Persoon's Synopsis, which represents a parallel development along the collateral *P. aviculare* line. The plant is probably the *P. aviculare* var. *latifolium* of Koch (Linnaea **22** : 204).

The opposite extreme of *P. neglectum* from this larger form is seen in a delicate, slender-stemmed and widely branched form which grew flatly prostrate on damp sand about ponds on the south shore of Nantucket. The pale yellowish-green linear leaves are very small and, excepting the midvein, nerveless or nearly so, 0.5–1.5 cm. long, 1–2 mm. wide, obtuse or acutish; ochreae rather short, the divisions often weakly scarious; flowers very small; achene exserted at tip, 1.5–2 mm. long, 1.25–1.50 mm. wide, plumper than in the typical form and more abruptly contracted at the base and blunter at the tip.

There would seem to be little doubt from Koch's description (Linnaea **22** : 204) that this plant may be referred to his *P. aviculare η tenuissimum*. The similarity of the flowering branches of the plant to those of the erect *P. tenue* Michx., which is remarked by Koch, is obvious in the Nantucket specimens.

Another very distinct-appearing form found sparingly on Nantucket, perhaps not to be referred to this species, is rather dark green, often becoming black when dry, erect or erect-ascending, 2–3.5 dm. high, with very slender and fragile, often zigzag, stems and branches, the leaves relatively thin, narrowly lanceolate and very acute, tapering to base and apex and distinctly slender-petioled; the ochreae are large and funnelform and show an extreme development of the stiffly lanceolate final divisions. In this form the inflorescence is not in the least spicate, its very small flowers being rather distant and axillary and the leaves scarcely, if at all, reduced in size towards the tips of the branches. Some specimens of this from European herbaria are labeled *P. aviculare* var. *erectum*.

Still another noteworthy form collected at York Harbor, Me., Aug. 16, 1893, is characterized by erect habit, slender, somewhat fastigiate branches and narrowly linear and acute, appressed or ascending leaves of firm texture and more or less revolute.

The main points of difference distinguishing typical *P. neglectum* from *P. aviculare* are more elliptic, prominently venose leaves of firmer texture, usually somewhat scurfy beneath, firmer, more prominent ochreae becoming stiffly laciniate and finally blackish, upper leaves greatly reduced in size, with a subspicate inflorescence towards the ends of the more sharply angled branches, and usually brighter red flowers. Other but less constant differences are more striate and roughened stem of shorter internodes, at least above, more flexuous branchlets, leaves revolute on margins or with revolute tendency instead of with involute tendency as in *P. aviculare*, the ochreae brownish-tinged from the first with firmer attenuate divisions, achene more reddish in color and more exserted.

* POLYGONUM PROLIFICUM (Small) Robinson.

Along salt marshes and brackish creeks, in saline mud, less often in sandy soil. Frequent along the harbor from near the town to Quaise; more common at the western end of the island towards Eel Point; not seen on the south or east side.

A very distinct species, abundant along our coast from Maine to New Jersey and flowering from the middle of July until killed by frost. In its various forms it exhibits an unusually wide range of variation. Although commonly erect, as required by descriptions, it may be straggling and ascending, prostrate or even flatly depressed in dense mats 1–2 dm. in diameter. Such a form used to grow along the Harlem River in New York and would not be easily recognized as the same species as the normal erect form. It is numerously short-branched with very short internodes, the small leaves and the flowers numerous and crowded. Specimens are deposited in the herbarium of the New York Botanical Garden. A wide-spreading and ascending slender form has elongated internodes and flexuous branches sometimes 5 dm. long, the leaves much reduced in size towards their extremities. The stoutest form of the plant is erect and densely bushy-branched with solid woody stem sometimes 0.5 cm. in diameter below. In a frequent state of the plant the ochreae become enlarged and imbricated towards the ends of the branches and of a reddish or bright purple color, the leaves remaining very small or even wholly undeveloped. In saline mud the plant is sometimes deep bluish-green in color, and the leaves and joints of the stem are somewhat succulent; such plants often become much blackened in drying. In drier sandy soil it is erect and paler green, often very slender and only sparingly branched. This is the prevailing form on Nantucket, although the thicker-leaved and widely branched bluish-green form also occurs.

The normal achene of *Polygonum prolificum* is about 2 mm. long, ovoid, light brown, somewhat dull, minutely punctate, with hard bony walls, and wholly included. Late in the season the plant commonly produces many achenes which become lanceolate and conspicuously exserted and 3–3.5 mm. long. These elongated achenes differ further from the normal in being olivaceous and shining with membranous walls. These profound modifications result from the premature germination of the embryo which, while still wholly enclosed, will be found to be bright green and purplish in color and with elongating radicle.

The elongated achene of *Polygonum exsertum* Small is of precisely the character of that of *P. prolificum* and I am unable to see that *P. exsertum* is anything more than a semiviviparous state of *Polygonum ramosissimum* Michx. In this species and in its eastern representative, as well as in *P. prolificum*, both kinds of achenes frequently occur on the same plant. This is also true of *Polygonum Fowleri* Robinson, and *P. buxiforme* and other species occasionally develop similar achenes with viviparous tendency.

Polygonum atlanticum (Robinson) comb. nov.

P. ramosissimum Michx. forma *atlanticum* Robinson, Rhodora 4: 72. 1902.

Occurs rather sparingly on the borders of salt marshes and along brackish tidal creeks: Acquidness Point, nearly three feet in height; Quaise; near Pocomo Head; Little Neck. Observed in full flower from before the middle of August until late in September.

Professor Robinson in distinguishing our coastwise representative of *Polygonum ramosissimum* as a form of the typical western species has pointed out a noteworthy difference between the two plants in the color of their flowers. In the western species the calyx lobes are green and yellow; in the eastern plant they are green and white, usually tinged with rose. The color differences between the two plants are not however confined to the flowers. The foliage of our coastwise plant is of a pale glaucescent green which contrasts strikingly with the bright or deep yellowish-green color characteristic of *P. ramosissimum*, the difference affording a close parallel to the color contrast between *Polygonum aviculare* L. and *P. erectum* L. Nor are the differences between the two plants only those of color. The leaves of the eastern plant are as a rule more uniformly acute and more tapering to base and apex, longer-petioled, of thicker texture with revolute margins when dry and much more strongly venose. In the western plant they are commonly very smooth and flat and only obscurely venose. The ochreae of the eastern plant are firmer, usually longer and more stiffly laciniate and darker in color, the base often blackish. The mature calyx of *P. ramosissimum* is longer than that of *P. atlanticum* and of a somewhat different shape, 3.5–5 mm. long as against 2.5–4 mm., ovoid-oblong rather than ovoid and more gradually narrowed towards the base; the calyx segments are commonly broader, especially above, and more strongly venose notwithstanding the less venose leaves. The achene of *P. ramosissimum* is larger and broader than that of *P. atlanticum* and of somewhat lighter and more reddish color.

I have found no difficulty in properly assigning a large series of specimens without reference to locality. Each species, however, occurs well within the range of the other. Doctor Robinson has recorded *P. ramosissimum* from eastern Massachusetts and I have seen specimens of typical *P. atlanticum* from North Dakota.

P. ramosissimum appears to be more closely related to *Polygonum Bellardi* All. of Europe than is *P. atlanticum* and certain specimens of the European and of the more western American plant are scarcely distinguishable.

In the study of these plants it has appeared that a beautifully distinct unnamed species which has been included in *P. ramosissimum* occurs in Missouri — Atherton, Sept. 7, 1895, *B. F. Bush*, in herb. New York Botanical Garden. This plant may be at once distinguished by the flowering calyx, which is small, 2.5 mm. long and wide, and deltoid-ovate from a broad subcordate base, the segments much compressed basally and becoming conspicuously carinate or even auricled. The achenes are much smaller than in *P. ramosissimum*, broadly ovoid with abruptly rounded base, shining as if polished and deep reddish brown in color.

* PERSICARIA PENNSYLVANICA (L.) Small.

The common erect form of this plant with lanceolate tapering leaves and cylindric spikes of rather pale pink ovoid-oblong flowers is uncommon on Nantucket and was met with only twice — at Wauwinet and in Quaise. The prevailing form is mostly prostrate or ascending and is confined almost exclusively to the sandy shores of ponds near the ocean on the south and east sides of the island. In its extreme development it is notably different from the erect narrow-spiked form but appears to be a state of the latter, rather than an intrinsically diverse plant. By comparison it is characterized by short-oblong or even subglobose more densely flowered spikes, usually of a bright rose-color or carmine-red, although sometimes pale, the flowers shorter and almost orbicular in outline, the achenes rather larger, thicker, and more broadly orbicular, often more abruptly narrowed to a rather shorter style; the leaves are often marked above by a dark chevron and are commonly shorter, broader and less attenuate to a blunt or rounded apex and on shorter petioles, the upper most often sessile. The plant is often firmly prostrate and is sometimes very small, stems bearing mature spikes being sometimes only 1 dm. long.

PERSICARIA INCARNATA (Ell.) Small.

Common along the shores of Sachacha Pond back of the beach and about the ocean ends of Hummock and Miacomet Ponds; sparingly on the sandy shore of Gibbs' Pond. In full flower August and September. Frequently semi-prostrate in the sand, or dwarfed and strictly prostrate.

* PERSICARIA LAPATHIFOLIA (L.) S. F. Gray.

Sparingly in waste ground by stables in the town near Mill Street, Sept. 16, 1907.

* **Persicaria tomentosa** (Schrank) comb. nov.

Polygonum tomentosum Schrank, Baier. Fl. **1**: 669. 1789.

A few good-sized plants back of the sandy shore of Miacomet Pond, Sept. 21, 1899, in full flower. Plants erect, the larger about 6 dm. high, some of the leaves invested on the lower surface with bluish-white tomentum, others quite glabrous; many with a dark medial blotch on the upper surface.

PERSICARIA PERSICARIA (L.) Small.

Common, especially in and near the town. In full flower through August and September.

PERSICARIA HYDROPIPEROIDES (Michx.) Small.

Common in ponds and water holes, flowering through August and September.

* PERSICARIA OPELOUSANA (Ridd.) Small.

Frequent in wet places in meadows and about ponds, flowering in August and September: Tom Never's Swamp; near Acquidness Point; Reed Pond and other ponds west and southwest of the town.

The range of this species is not understood to extend north of Louisiana and Missouri, yet it is common enough in our eastern flora and has doubtless been passed over as a pale-flowered form of *P. hydropiperoides*, to which it is nearly allied. Indeed the two species have recently been united (Gray's New Manual, seventh edition), but I have found myself unable to accept this ruling. Some years ago I used to find both plants in the neighborhood of Van Cortlandt Park, New York City, and carefully studied them out as distinct without then suspecting that one was a southern species already described. The eastern pale-flowered plant does, indeed, differ in some respects from typical *P. opelousana*, but apparently not by any character stable enough to justify their separation.

The most obvious differences between our eastern plant here referred to *P. opelousana* and *P. hydropiperoides* are seen in the flowers. In the latter species these are ovoid-oblong, 2.5–4 mm. long at maturity, purplish-pink to clear pink and white, the segments petaliferous and completely concealing the achene; in *P. opelousana* the flowers are greenish-white, obovoid, 2–3 mm. long, the tip of the achene distinctly visible. In *P. hydropiperoides* the spikes are commonly longer and more slender than in *P. opelousana* and often interrupted at the base; the ochreolae are longer (2.5–3.5 mm. as against 1.5–2.5 mm.); the flowers on longer less spreading pedicels, 3–5 mm. long as against 1.5–3 mm; the achene of *P. opelousana* is commonly shorter and broader than that of *P. hydropiperoides*, more abruptly narrowed to a shorter point, the sides more concave, the angles decidedly more tumid, the surface less shining. *Persicaria opelousana* is more erect in habit than *P. hydropiperoides*, which is often decumbent, is less strigillose throughout, commonly with narrower, thicker, paler-green leaves, less distinctly veined, and characteristically pale beneath.

In the type specimen of *Persicaria opelousana* (herb. New York Bot. Garden) and other southern material the flowers are of the same form and color as those of our eastern plant but are rather smaller with smaller and narrower achenes; the leaves are somewhat thicker and more obscurely veined and more stiffly setulose-strigillose along the midrib and margins; the ochreae are closer, of firmer texture, more strigose, with a longer and stiffer ciliate fringe, 5–13 mm. long as against 2–5 mm. long in the northern plant; the ochreolae are also longer-fringed, the hairs 1–5 mm. long whereas in the northern form they are often obsolete and rarely exceed 1 mm. in length.

* PERSICARIA SETACEA (Baldw.) Small.

The occurrence of this species on Nantucket is altogether surprising, since, although a well-known species of the Southern States, it seems never to have been recorded from north of the Carolinas. It was first collected on Nantucket, Sept. 11, 1907, in full flower, growing in the water at the border of Reed Pond, the plants being essentially identical with typical examples from the South Atlantic States. It was again collected, June 17, 1908, along a wet ditch near the head of Millbrook Swamp. Although then only in leaf it appeared notably different from any of our northern species and unmistakable by reason of its large elliptic-lanceolate leaves narrowed to base and apex, at least the upper ones densely short-strigillose over both surfaces, the larger 13 cm. long by 3 cm. wide; the plants were erect from a prostrate rooting base and 3–4 dm. high.

PERSICARIA PUNCTATA (Ell.) Small.

P. punctata var. *leptostachya* (Meisner) Small.

Very common in swampy places and along wet meadows and pond shores. In full flower through August and September.

I am unable to see in the so-called var. *leptostachya* anything more than a reduced and slender state of the ordinary plant — and the most common form of the species appears to be more or less intermediate between these two extremes. It does not appear from Elliott's description which form of the plant, if either one, he had particularly in view.

* **Persicaria robustior** (Small) comb. nov.

Polygonum punctatum robustior [*ius*] Small, Bull. Torrey Club **21** : 477. 1894.

Wet ditch in Quaise ; Watt's Run ; muddy ditch north of the town, just in flower, Aug. 15, 1906. Leaves sometimes 15 cm. long by 3.25 cm. wide.

My experience with this plant, even before it was described, led me to regard it as distinct from *P. punctata* and further acquaintance with it at many localities has only confirmed this view. Although closely related to *P. punctata*, its characters seem to be very constant and it has a distinctive appearance which announces its identity at sight. It comes into flower definitely later than *P. punctata*.

Note. — *Polygonum amphibium* L. is included in Mrs. Owen's catalogue. What particular plant was intended is now impossible to say unless specimens should be somewhere preserved. I did not myself meet with any species of the *amphibium* group.

Polygonum Zuccarinii Small is planted in the town and shows some tendency to escape from cultivation.

TRACAULON SAGITTATUM (L.) Small.

Polygonum sagittatum L.

Common in low grounds, flowering through August and September.

TINIARIA CONVOLVULUS (L.) Webb. & Moq.

Polygonum Convolvulus L.

Common about cultivated grounds and in waste places. In flower through August and September.

TINIARIA DUMETORUM (L.) Opiz.

Polygonum Dumetorum L.

Frequent about the borders of thickets mostly in dry open ground, flowering through August and September.

In the shade of dense thickets in Squam and on Coskaty a delicate very thin-leaved form, simulating *Tiniaria cristata* (Engelm. & Gray) Small, but with the much larger achenes of *P. Dumetorum* — 3.5 mm. long by 2.5 mm. wide. I have collected the same plant on Long Island, New York, and on La Rue Island, Canada, near Alexandria Bay. It is further characterized by very short and few-flowered leafy-bracted racemes or the flowers in merely axillary very small clusters. It contrasts rather strikingly with the common form of *P. Dumetorum* and may even be distinct.

FAGOPYRUM FAGOPYRUM (L.) Karst.

The buckwheat is mentioned by Mrs. Owen as being common in old fields. It was casually noted on my earliest visit to the island but has not been observed since and would therefore appear to have generally died out.

POLYGONELLA ARTICULATA (L.) Meisn.

Common throughout, usually in pure sand; often growing entirely alone, but also mingling with the xerophytic vegetation of the dry commons. Saul's Hills. First flowers, Aug. 9, 1906.